ORDER NO. SD7812-1496

Service Manual

SB-R2/K

Linear Phase Speaker System

SB-R2
(XGE),(XG),
(XGF),(XGB)

SB-R2K
(XG),(XGB)

* The model SB-R2(XGE) is available in United Kingdom only.
* The model SB-R2(XGF) is available in France only.
* The model SB-R2(XGB) is available in Belugum only.
* The models SB-R2(XG), SB-R2K(XG) and SB-R2K (XGB) are available in European only.

■ SPECIFICATIONS

(Specifications are subject to change without notice.)

Type:	3-way 3-speaker system
Speakers:	Woofer: 16cm, corn type Mid-range: 10cm, corn type Tweeter: horn type
Impedance:	8 ohms
Power Handling Capacity:	100W, Music 65W, DIN
Output Sound Pressure Level:	86.5dB/W (1.0m)
Crossover Frequency:	1,900Hz, 4,000Hz
Frequency Range:	45Hz~22kHz (—10dB)
Dimensions:	20.8(W)×39.2(H)×24.3(D) cm
Weight:	6.6kg

■ TECHNISCHE DATEN

(Änderungen der technischen Daten vorbehalten.)

Typ:	3-Weg-System mit 3 Lautsprechern
Lautsprecher:	Tieftonlautsprecher: 16cm, Konustyp Mitteltonlautsprecher: 10cm, Konustyp Hochtonlautsprecher: Trichtertyp
Impedanz:	8 Ohm
Belastbarkeit:	100 Watt Musik 65 Watt DIN
Abgegebener Schalldruckpegel:	86.5dB/W (in 1.0m Abstand)
Überschneidungs-frequenz:	1,900Hz, 4,000Hz
Frequenzbereich:	45Hz~22kHz (—10dB)
Abmessungen:	20.8(B)×39.2(H)×24.3(T) cm
Gewicht:	6.6kg

■ SPECIFICATIONS

(Les sésifications sont susceptibles dêtre modifiées préavis.)

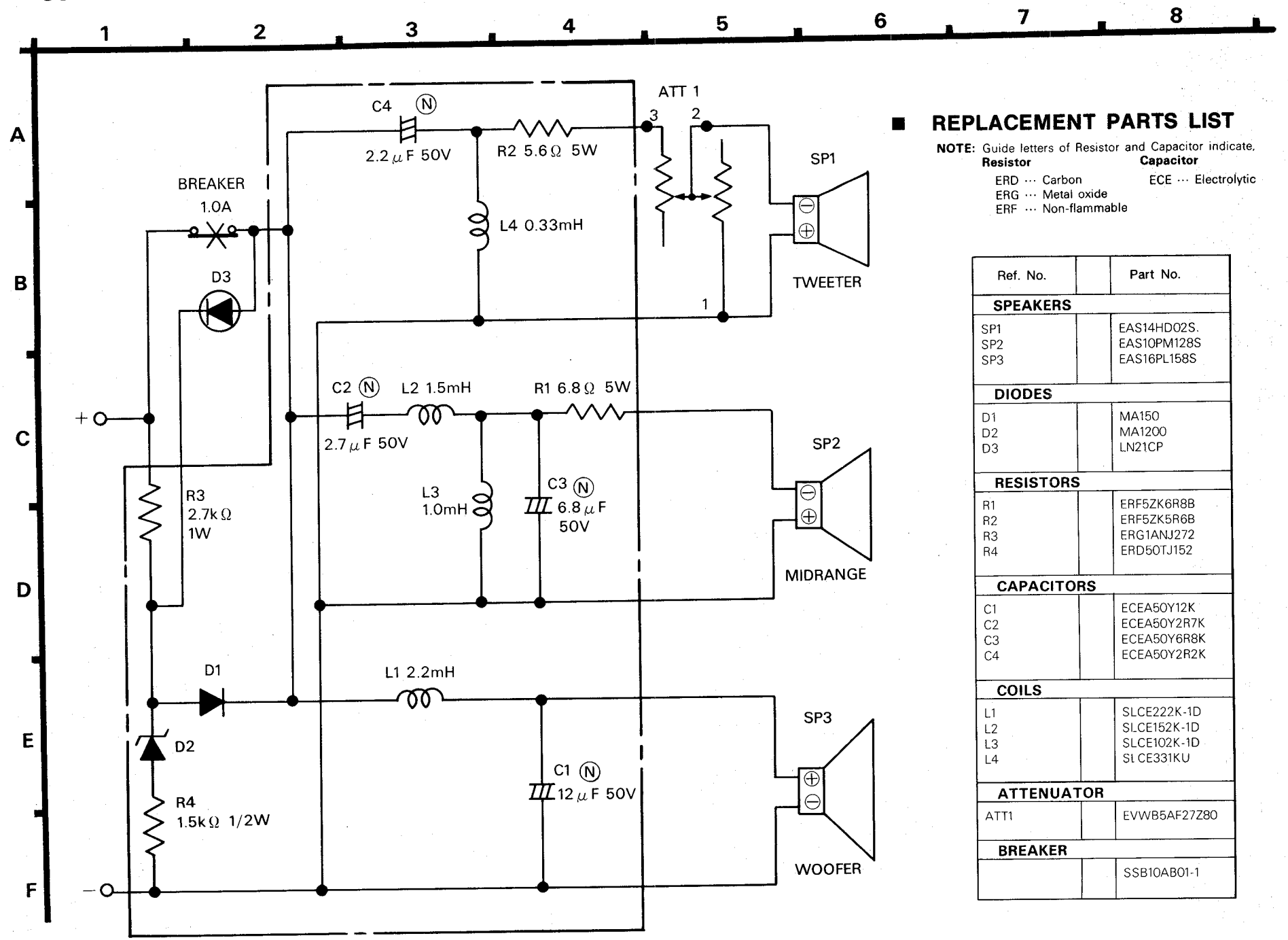
Type:	3 voies, 3 haut-parleurs
Haut-parleurs:	graves: 16cm, type à cône moyennes: 10cm type à cône aigus: type à corne
Impédance:	8 ohms
Entrée maximale:	100 Watts, musique 65 Watts, DIN
Niveau de pression sonore de sortie:	86.5dB/W (1.0m)
Fréquence de commutation:	1,900Hz, 4,000Hz
Gamme de fréquences:	45Hz~22kHz (—10dB)
Dimensions:	20.8(I)×39.2(H)×24.3(P) cm
Poids:	6.6kg

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ SCHEMATIC DIAGRAM

This schematic diagram may be modified at any time with the development of new technology.



■ REPLACEMENT PARTS LIST

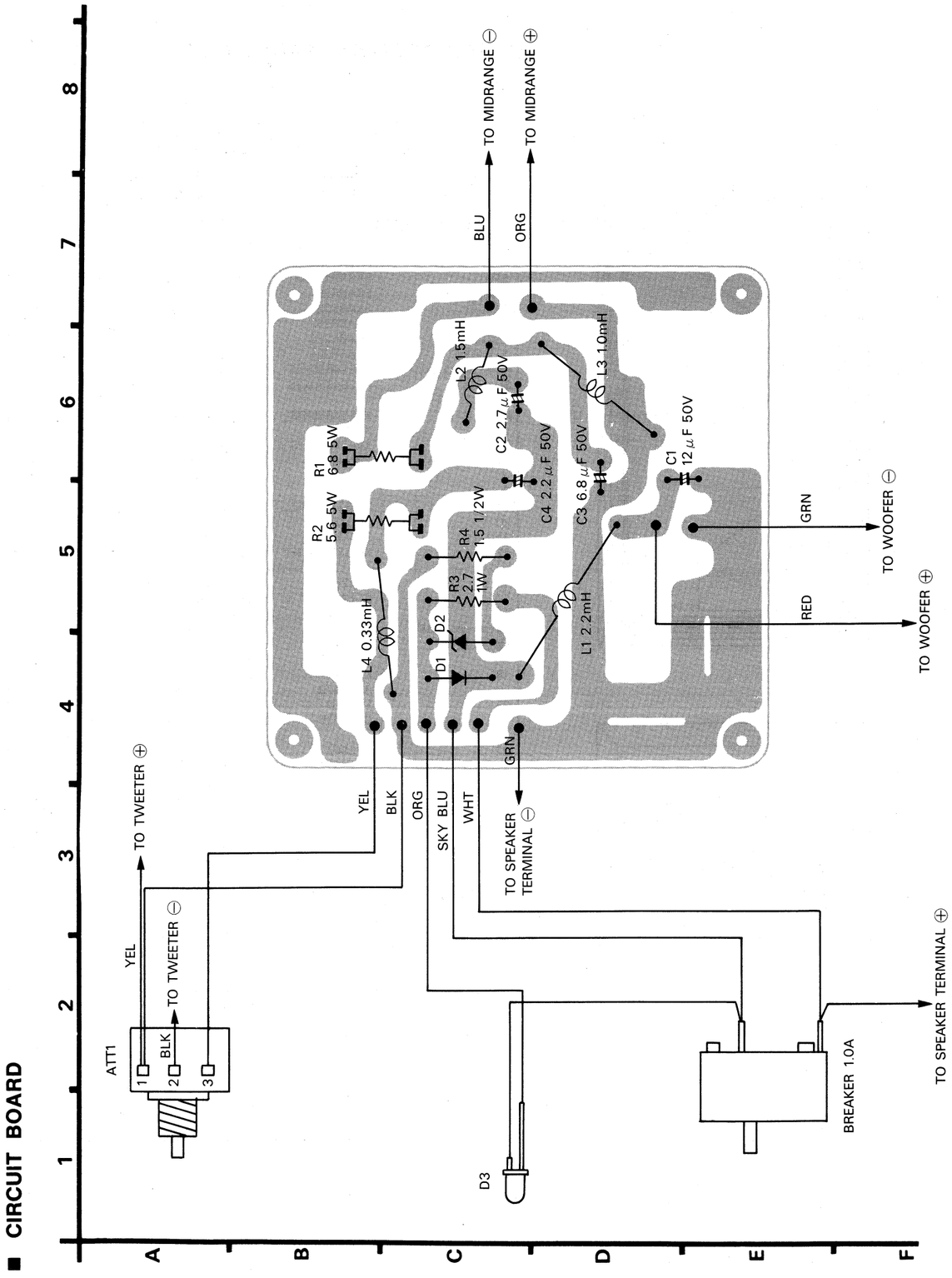
NOTE: Guide letters of Resistor and Capacitor indicate,

Resistor
ERD ··· Carbon
ERG ··· Metal oxide
ERF ··· Non-flammable

Capacitor
ECE ··· Electrolytic

Ref. No.		Part No.
SPEAKERS		
SP1 SP2 SP3		EAS14HD02S. EAS10PM128S EAS16PL158S
DIODES		
D1 D2 D3		MA150 MA1200 LN21CP
RESISTORS		
R1 R2 R3 R4		ERF5ZK6R8B ERF5ZK5R6B ERG1ANJ272 ERD50TJ152
CAPACITORS		
C1 C2 C3 C4		ECEA50Y12K ECEA50Y2R7K ECEA50Y6R8K ECEA50Y2R2K
COILS		
L1 L2 L3 L4		SLCE222K-1D SLCE152K-1D SLCE102K-1D SLCE331KU
ATTENUATOR		
ATT1		EVWB5AF27Z80
BREAKER		
		SSB10AB01-1

■ CIRCUIT BOARD



■ CONNECTING THE SPEAKER SYSTEM

- Be sure to **turn off the power of the amplifier** before connecting the speaker systems to it.
- The impedance of this speaker system is **8 ohms.** Be sure that the load impedance of the amplifier to be used is 4 ~ 16 ohms.
- The input terminals of this unit are on the rear surface of the mid-range enclosure. The polarity (+ and –) of each input terminal is indicated. When connecting speaker wires from the amplifier, **be sure that the left and right connections and the plus and minus connections are made correctly.**

When speaker connection wires are connected to the **"system input"** terminals, make the connections as shown in figure 1.

1. Strip about 10mm (1/2") of the insulation from the wire, and then twist the core.
2. Loosen the terminal knob by turning it counterclockwise 2 or 3 times. Insert the wire into the hole on the knob until the core cannot be seen.
3. Tighten it by turning it clockwise.

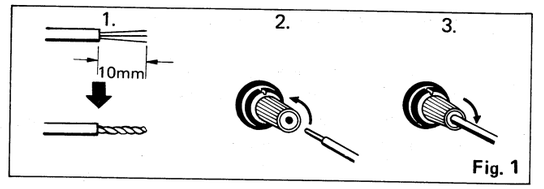


Fig. 1

If thick wire is used, make the connection as shown in figure 2.

1. Strip about 20mm (1") of the insulation from the wire, and then twist the core.
2. Remove the terminal knob by turning it counterclockwise. Insert the core wire through one of the notches on the terminal base, pass it clockwise around the screw, and out from the other notch.
3. Put the terminal knob back on the screw, and tighten it by turning it clockwise.

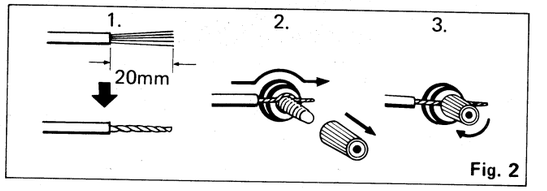


Fig. 2

Be sure that the core wires don't touch each other.

■ POWER-HANDLING CAPACITY

The power-handling capacity of this unit is indicated in the specifications, and is determined according to the temperature increase of the voice coils.

- If the amplifier to be used has an output power which exceeds the power-handling capacity of this unit, be sure that the **amplifier's volume control** is set so that **excessive input** is not applied to the speaker system.
- Even if the amplifier to be used has an output power which is less than the power-handling capacity of this unit, the output of the amplifier will become distorted and excessive input will be applied to the speaker units, especially for the middle and high frequencies, if the **input signals to the amplifier are too large or the amplifier volume level is too high.** Also note that higher-than-normal power is applied to the speaker systems if the tone controls of an amplifier or a frequency equalizer are **used to raise the level of bass and/or treble sounds.** When adjusting the volume level, therefore, **do so with great care: confirming that amplifier output is not distorted.**
- The power-handling capacity of this unit is set for reproduction of ordinary music. If an oscillator or test record is used **to produce a continuous signal such as a sine wave, etc., a signal exceeding 10 watts must never be applied.**
- If the following **special types of signals** are applied to the speaker system, be sure to **reduce the volume level of the amplifier.**

1. Interstation hiss on the FM broadcast band.
2. Output from a tape deck during fast forward or rewind.
3. Acoustic feedback from a microphone or an electric musical instrument.
4. "Shock" noise which occurs when input or output connection cords are connected or disconnected or when a phono cartridge is replaced.

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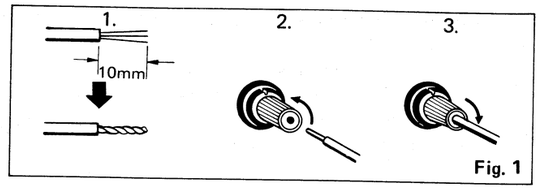

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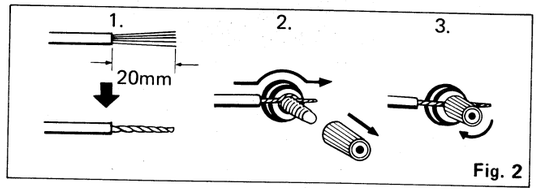
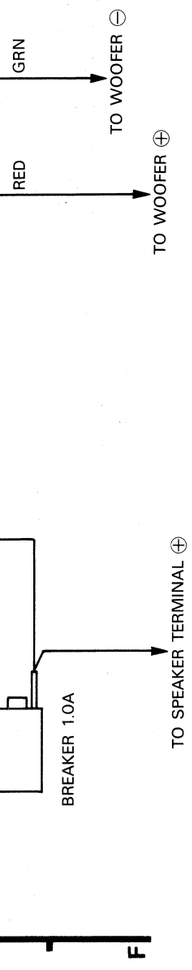


Fig. 2

Be sure that the core wires don't touch each other.



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■ SPEAKER-PROTECTION CIRCUITRY

This unit includes built-in **speaker-protection circuitry** to protect the speakers from damage by excessive input or an abnormal signal.

- This unit is designed so that the protection circuitry will **automatically** function if **excessive input or an abnormal signal** is applied to the speaker system, thus **cutting off the input** to the speakers.
- To operate the speaker protection circuitry, please **note the following instructions:**

1 **Before making connection to the amplifier,** be sure to **push the reset buttons** on the rear surface of the mid-range enclosure.

2. **If sounds from the speaker system are interrupted or changed** suddenly while using your speaker system:
   1 **Reduce the amplifier volume.**
   2 **Check to be sure all equipment in your reproduction system is functioning properly.**
   3. **Wait for about 20 seconds.**
   4. **Push the reset buttons.**
   5. **After resetting the protection circuitry, reduce the amplifier volume** to a level lower than before to prevent the speaker-protection circuitry from functioning again.

■ LEVEL CONTROLS

This speaker system includes level controls which can be used for continuous adjustment of the level of the mid-range and tweeter sound depending upon the room acoustics, the sound source, and the characteristics of the phono cartridge and the amplifier which are used with this speaker system, as well as your own preference. The standard setting of the level controls is the "normal" position.

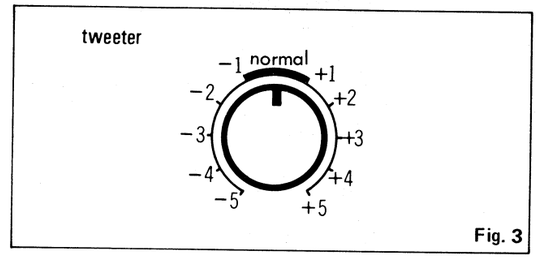


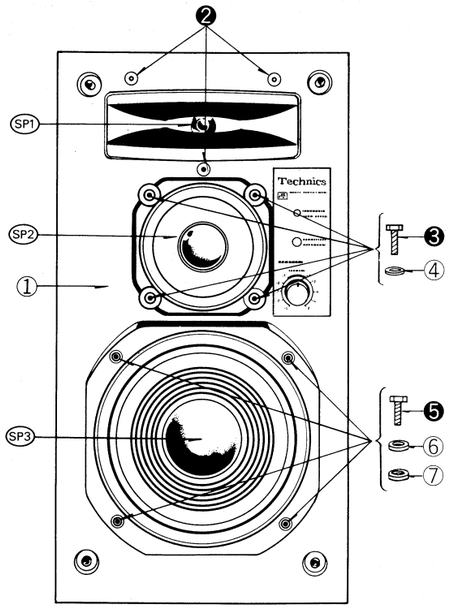
Fig. 3

■ NOTES

- Although the enclosure and the speaker units of this speaker system are made of carefully selected material and have been produced by the finest manufacturing techniques, sudden changes in surrounding temperatures and/or humidity should by avoided. **Keep this unit away from sources of heat, high humidity and direct sunlight.**
- The speaker system **should not be placed near a TV,** because the magnet may cause a disturbance in the TV picture.
- If the enclosure becomes dirty, use a soft, dry cloth to wipe it clean. If the dirt is excessive, soak a soft cloth in a weak solution of soap and water, wring it thoroughly, and then clean the enclosure. A soft dry cloth should then be used to wipe it dry.
- **Never use alcohol, paint thinner, benzine nor other volatile chemicals** to clean this unit because they may damage the finish, causing it to lose its luster. Also **never use a wet cloth or a chemically-impregnated cloth.**

— NOTE —

How To Remove Tweeter (SP1)
- Remove woofer.
- Remove midrange.
- Remove midrange cover.
- Remove 3 setscrews ❷ with hexagon wrench (3mm).
- Take ⑯ out of woofer installing hole.
- Separate ⑯ from tweeter.

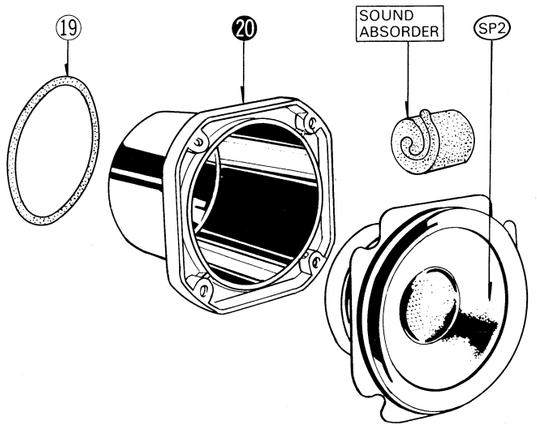


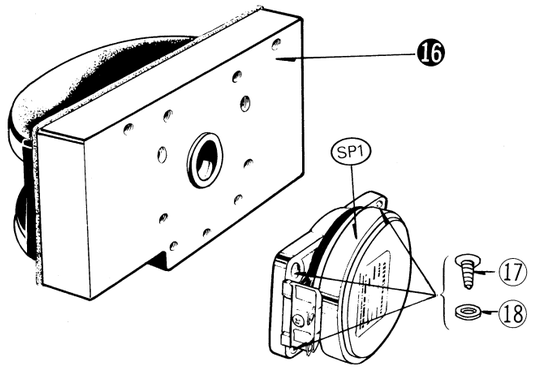
How To Remove Midrange (SP2)
- Remove 4 setscrews ❸ with hexagon wrench (4mm).
- Disconnect two lead wires from speaker terminals.

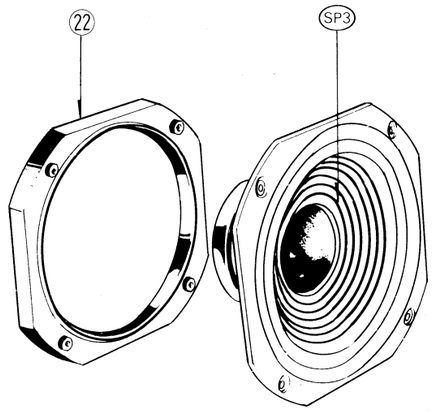
How To Remove Woofer (SP3)
- Remove 4 setscrews ❺ with hexagon wrench (4mm).
- Disconnect two lead wires from speaker terminals.

How To Remove Midrange Cover (⑳)
- Holding the cover ⑳ with right hand, pull two lead wires at the back of ⑳ with left hand.
- Remove ㉑.

Note: Do not pull ⑳ by force.



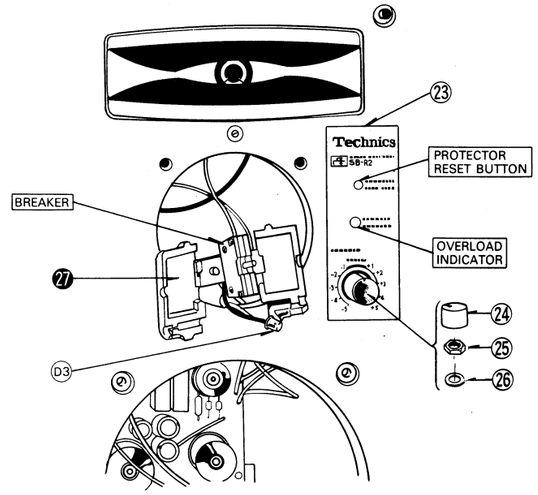


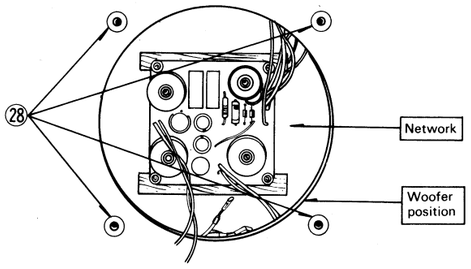


How To Remove Breaker and LED
- Remove midrange.
- Remove midrange cover.
- Take ㉗ out of midrange installing hole.

When replacing breaker and LED for repair, make the wiring as shown in Fig. 4.

Notes: 1. Finish soldering quickly so that LED will not be excessively heated.
2. Take care not to allow short -circuiting between the ends of LED.





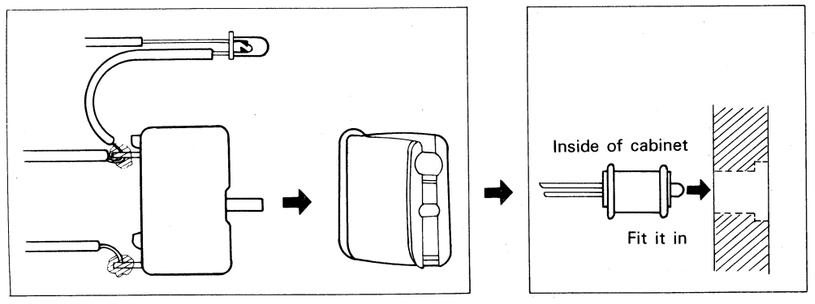
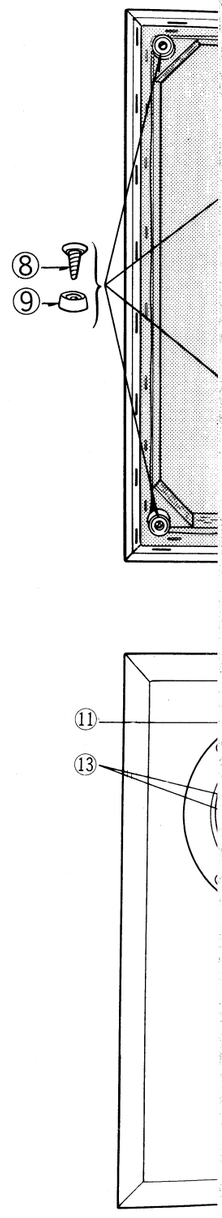


Fig. 4



wrench

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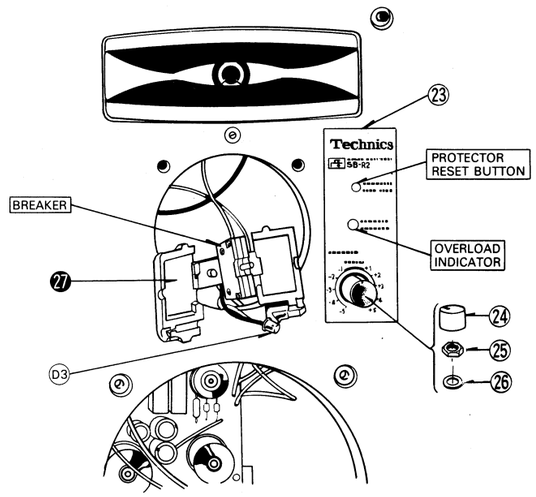
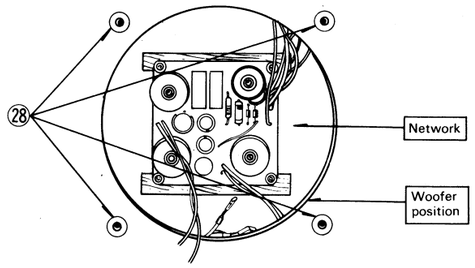




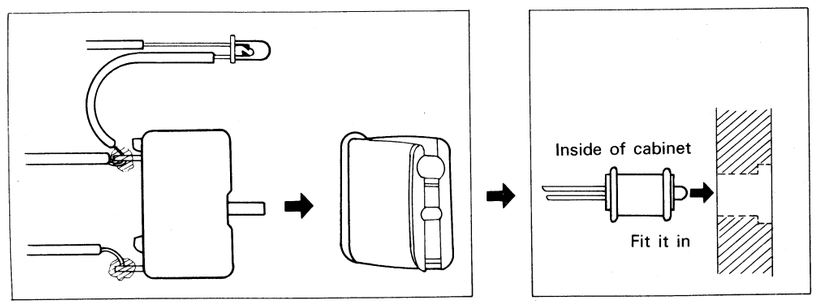
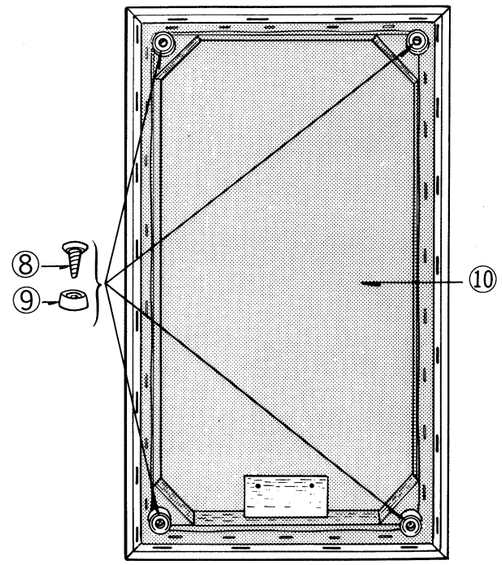
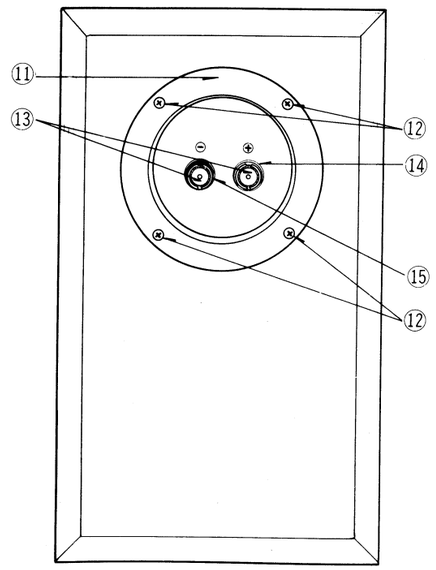


Fig. 4





■ REPLACEMENT PARTS LIST

NOTES: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. SB-R2 (XGE) ⟶ [XGE], SB-R2 (XG) ⟶ [XG]
SB-R2 (XGF) ⟶ [XGF], SB-R2 (XGB) ⟶ [XGB]
SB-R2K (XG) ⟶ [KXG], SB-R2K (XGB) ⟶ [KXGB]

Ref. No.		Part No.	Part Name & Description
CABINET PARTS			
SP1		EAS14HD02S	Tweeter, Speaker, Horn type
SP2		EAS10PM128S	Midrange, Speaker, Corn type
SP3		EAS16PL158S	Woofer, Speaker, Corn type
1 [XGE,XG]		SKABR2E	Cabinet (Woody)
1 [XGF]		SKABR2E1	Cabinet (Woody)
1 [KXG]		SKABR2E2	Cabinet (Black)
1 [XGB]		SKABR2E3	Cabinet (Black)
1 [KXGB]		SKABR2E4	Cabinet (Black)
❷ [except KXGB]		XVES4B30X5S	Screw, Tweeter Horn
❷ [KXGB]		XVES4B30X3S	Screw, Tweeter Horn
❸		XVES4B35X1S	Screw, Midrange
4		XWA4BFZ	Washer, Midrange
❺		XVES4B35X1S	Screw, Woofer
6		XWA4BFZ	Washer, Woofer
7		SNW423-1	Washer, Woofer
8		SYB579	Grille
9		XMS27+13FZ	Screw, Net Catch
10		SHG1245-2	Net Catch
11		SWT373	Plate, Terminal
12		XMS31+D13FZ	Screw, Terminal Plate
13		SNE281-1S	Knob, Speaker Terminal
14		SGE401-1	Ornament (Orange)
15		SGE401	Ornament (Black)
⑯ [except KXGB]		SYE643-1	Horn, Tweeter (Silver)
⑯ [KXGB]		SYE643	Horn, Tweeter (Black)
17		XSN4+12S	Screw, Tweeter
18		XWA4B	Washer, Tweeter
19		SHR9479	Spacer, Cover
⑳		SUV437	Cover, Midrange
21		SHG1435	Bushing, Midrange Lead
22		SYE647	Spacer, Woofer
23 [except KXGB]		SGK1307-1	Panel, Attenuator
23 [KXGB]		SGK1307	Panel, Attenuator
24		SBN793-1	Knob, Attenuator
25		XNS9	Nut, Attenuator
26		XWV9	Washer, Attenuator
㉗		SHG1527	Bushing (Breaker & LED)
28		XMA31+D16	Screw, Network
ACCESSORIES			
A1		SQF20093	Instruction Book
A2		SPB299-1	Felt, Speaker Unit
A3		SWX291	Cord, Speaker Unit
PACKING PARTS			
P1 [XGE,XG,XGB]		SPG1989	Carton
P1 [KXG,KXGB]		SPG2047	Carton
P1 [XGF]		SPG2049	Carton
P2		SPS2059	Pad, Bottom
P3		SPS2061	Pad, Center
P4		SPS505	Pad, Corner
P5		SPP621	Polyethylene Cover, Speaker Unit

Printed in Japan
78125400 ® S.H.